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**MARKETING MARGINS  
FOR  
SELECTED CANADIAN AGRICULTURAL  
PRODUCTS  
1935 - 1949**

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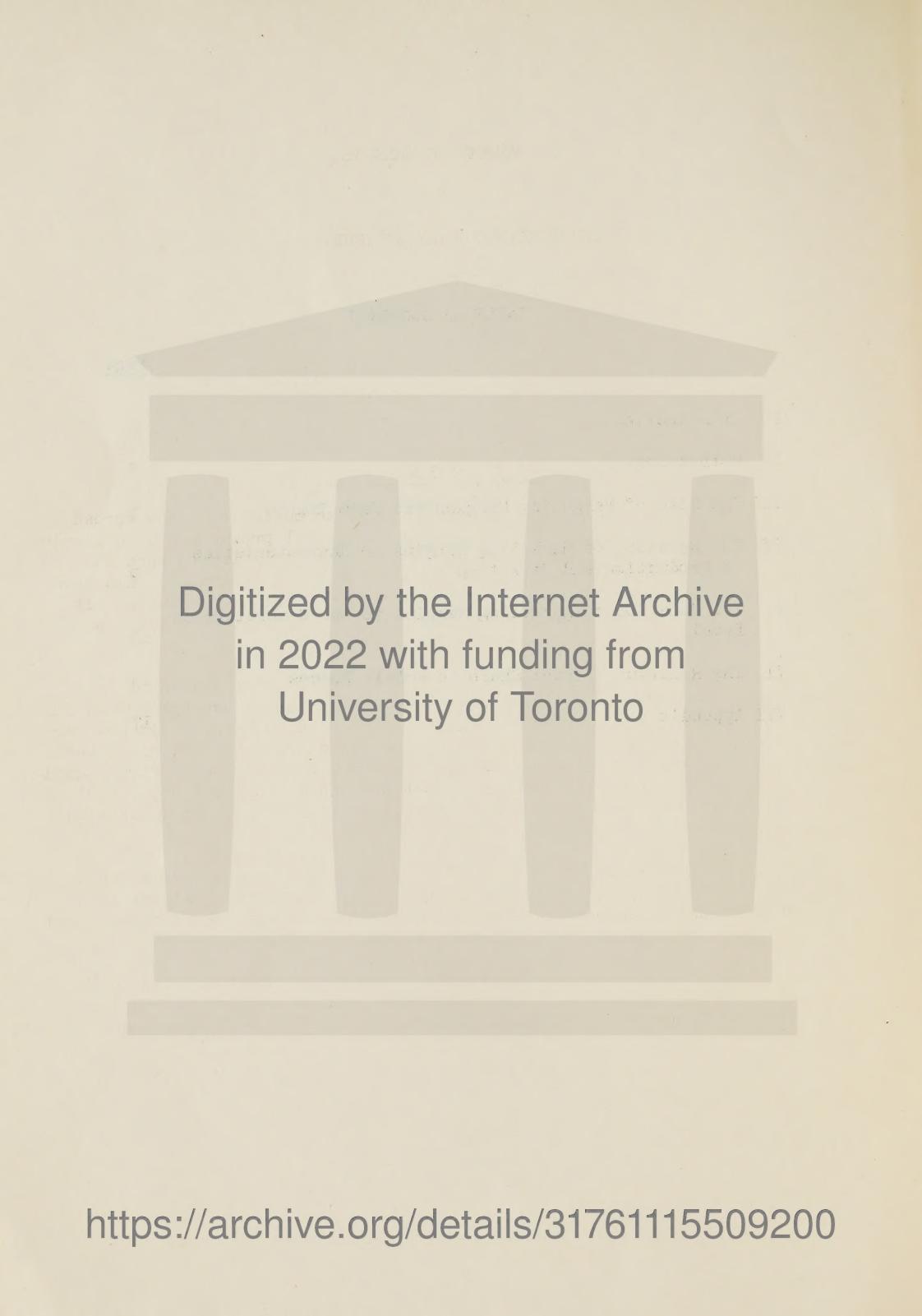
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I - INTRODUCTION

The objectives of this study are to provide an estimate of the spread between farm and retail prices for selected agricultural products and to examine the spread and the farm share of the retail price in relation to such factors as the level of prices, wartime control, and assistance programs. This study does not propose to justify the price spreads of the various products. It does propose to show how great the price spread is and explain why it is greater in the case of some products than in others.

The scope of the study is limited, in the main, by the availability of satisfactory price series. In this report national annual average prices for Canada have been considered. The commodities which have been considered are: wheat flour, white bread, potatoes, eggs, process cheese, butter, milk, beef, and canned tomatoes. These products represent the main groups of farm commodities produced in Canada; their retail cost comprises about fifty per cent of the family food bill, and they are related to the most important industries handling or processing agricultural products.

The period selected for study is from 1935 to 1949 because comparable price series are not available prior to 1935. Nevertheless, the time is sufficiently long to compare a five year prewar period with the war years and also three postwar years.

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## II - METHODOLOGY

The basic data are farm prices and retail prices. For most commodities the product at the farm level was resolved to the equivalent quantity and quality of the commodity for which prices are quoted at the retail level. The farm price per unit was thus made comparable to the retail price per unit on the basis of quality and quantity of product. For example, calculations were made of the price the farmer receives for that part of his wheat used in manufacturing one pound of wheat flour retailing as "family first grade wheat flour packed in seven pound bags." In this manner, the retail price of one pound of this grade of flour was compared with the farm price of 1.4 pounds <sup>1/</sup> of wheat, less the estimated value at the farm of the by-products which are obtained from the manufacture of wheat flour.

An alternative approach would be to determine the retail value of one unit of the product sold by the farmer. In following this method for wheat, it would be necessary to determine the retail value of that part of wheat which is used in the manufacture of flour and, in addition, the retail value of that part of wheat known as by-products and which includes bran, shorts and middlings. These by-products are, in the main, sold at wholesale and used for live stock feed so that it would be necessary to determine the share of the retail value of live stock which may be attributed to millfeeds. This estimate would be very difficult, if not impossible, to make with any degree of reliability. The process of estimating retail values of by-products becomes more involved and difficult for those commodities such as live stock from which there are obtained a large number of many kinds of by-products. For these reasons it was decided to compare the prices of retail products with the equivalent farm prices of that part of the basic farm commodity which appears in the retail product.

Price Series: The retail prices used in this study are those compiled by the Dominion Bureau of Statistics. They are computed from monthly reports received from correspondents in 64 cities and towns throughout Canada. Each report contains, for each product, the average of a sample of prices obtained from independent and chain stores. <sup>2/</sup> The national average for the month is the arithmetic mean of the 64 individual average prices. The annual average retail price for Canada, as used in this study, is the arithmetic mean of the monthly prices, except for milk and bread in which cases the regional prices are weighted by population.

The initial purpose for which these retail average prices are collected is for use in compiling the urban cost-of-living index. This leads to complications in using the price series for other purposes. The grades of products reported are those which are currently sold in greatest volume or are representative of consumers purchases. These change from time to time and

<sup>1/</sup> This varies between 1.38 and 1.42 depending on the extraction rate.

<sup>2/</sup> Independent store prices only are available for the period prior to 1940. These have been used throughout this study.

the price series reflect this attempt to retain the representativeness of the index. This complicates any comparison of historical series of farm prices and retail prices. Since, in this study, it is necessary that the spread in price refer to the same commodity during the entire period, adjustments in several early retail price series were necessary to retain uniformity during the period.

The farm prices for most commodities are compiled by the Dominion Bureau of Statistics from returns received monthly from some 2,000 farm correspondents. These represent the average price received at the farm for all grades of product sold. The annual price is an average of monthly prices weighted by sales in each month. The national annual farm price is an average of provincial prices weighted by sales in each province. The price series used to represent the farm price of canning crops was the factory cost price of the products.

Wholesalers' prices to retailers are obtained from wholesalers by the Dominion Bureau of Statistics. These prices were used mainly in computing by-product allowances.

Adjustments to Data: The farm price and the equivalent farm value are the same if a commodity does not undergo physical or chemical change during the period between its sale on the farm and its sale at retail, if the two sales are made at the same time, and if there are no subsidies or other similar payments made in connection with the marketing. Under such circumstances the calculation of gross spread would be one of simple subtraction.

However, these conditions are met only infrequently. It is necessary to make adjustments in quoted prices to achieve comparability between retail and farm products with respect to quality, quantity, time, by-product allowance, special taxes and payments.

The first adjustment is to make the farm price series and the retail price series refer to the same quality of product. The farm price usually refers to all sizes and qualities sold, whereas the retail price refers to a specific size and quality. The relationship that the price of the specific size and quality bears to the price of all sizes and quality must be determined so that a farm equivalent value for the specific, or so that a retail equivalent value for the general, may be determined. In some cases the adjustment was not sufficiently important to improve the accuracy of estimates and was not made.

The second adjustment is to compensate for changes in weight or volume of a commodity during the marketing process. For example, there is an average shrinkage loss of 8 per cent in the weight of potatoes during the journey from the farmer to the consumer; it requires 1.40 pounds of wheat as sold by the farmer to produce 1.00 pound of flour as sold by the retailer. The comparison of prices at farm and at retail level must take these quantity differences into consideration in order that correct relationships may be obtained. Thus the farm price of 1.08 pounds of potatoes is comparable to the retail price of 1.00 pound. These are the farm weights equivalent to one unit at retail, or the number of units at the farm required to produce one unit at retail, and are

called farm equivalent weights. They have been calculated for each commodity except fluid milk.

The third adjustment is made when the weight change between producer and consumer gives rise to by-products having value. That part of the farm price which is due to the value of the by-product is removed so that the farm value of only the specific retail product may be obtained. The values of the main product and of the by-products were determined at the point of the physical separation. This is necessary to avoid distortion of either price due to value being added by processing, and was done at the factory or wholesale levels. The relationship between the by-product value and the total value at the wholesale level was applied to the farm value of the farm equivalent weight. The result was then subtracted from the farm value to obtain the net farm value of the retail article.

The time interval between sale at the farm and purchase at the retail store gives rise to an adjustment which may be made. This involves consideration of storage stocks, domestic and foreign trade, and the processing of the commodity. Because the scope of this study does not permit the determination and detailed analysis of these factors, time lags were not calculated for most products. However, sufficient data are readily available to calculate time lags for prices of canning vegetables. Margins which are calculated from lagged price series are called lagged margins in contrast to concurrent margins in which producer and consumer prices refer to the same date. In this report concurrent margins are presented for all the products except canning vegetables.

Government activity in the marketing field during the war and immediate postwar years has involved subsidies, drawbacks, rebates and special levies. A price spread between the amount which the farmer actually received and the amount the consumer actually paid measures the marketing charges to the consumer but does not necessarily measure the actual cost of marketing the product. On the other hand, the addition to the retail price of any payments, subsidies and drawbacks, and the deduction of any special taxes or levies, does result in a margin representing the actual cost of marketing. When an extraneous payment was made into the marketing system, that same amount was not required from the final consumer and the marketing margin appears smaller by the amount of the payment. Similarly, when a levy was made at any point in the marketing system, the price spread between producer and consumer appears larger by at least the amount of the levy.

Adjustments were made for extraneous payments to, or levies on, the marketing of each of the commodities considered in this report. Details are presented in the commodity section.

Calculations: <sup>3/</sup> The basic data derived for each commodity were the national annual average price spread between producer and consumer, and the farmers' share of the consumers' dollar. These data were calculated in the following manner from the adjusted price series outlined above.

- (1) The farm and retail price series were brought to a common denominator so that they become prices per unit of the same or equivalent products

<sup>3/</sup> See appendix for details.

- (2) Subsidies and other payments were added to, and special taxes and levies were deducted from the retail price.
- (3) Farm prices were adjusted to show the value of the farm equivalent weight. Any payments made directly to farmers were incorporated if they were not already included in the original farm price.
- (4) The net farm value of the farm equivalent weight was calculated by deducting any by-product allowance from the farm value.
- (5) The price spread between farmer and consumer was determined by subtracting the net farm value from the adjusted retail price.
- (6) The farm share of the consumers' dollar is the net farm value expressed as a percentage of the adjusted retail price.

In order to show the effect of various payments on the margin and on the farm share, the unadjusted margin and the unadjusted farm share have been included in the calculations and are shown in the appendix.

The marketing margin for each commodity is shown in Table No. 1 and the farm share of the retail price is shown in Table No. 2.

### III - THE SIZE OF MARKETING MARGINS AND FARM SHARES

Marketing Margin - The average annual marketing margins, expressed in cents per retail unit, are presented in Table No. 1. There are important differences among the selected commodities with respect to the year to year variation during the 15 year period 1935-49. The marketing margins of some products remained relatively stable during the 15 year period. For instance, the total margin paid to middlemen handling fluid milk between producers and consumers varied from 6.5 cents a quart in 1936 to 8.2 cents in 1949. During most of this period a margin of about 7.2 cents a quart prevailed. Similar stability existed with respect to creamery butter, flour and bread, although in all instances increased margins were experienced.

In contrast, the margins for the remaining five commodities were more variable and the increase of greater magnitude in the period 1935 to 1949. The margin for marketing potatoes rose quite regularly from 9.5 cents per 15 pounds in 1935 to 27.7 cents in 1948, almost a three-fold increase. The margins for such commodities as cheese and beef rose substantially and remained at the new level for several years before rising again, though the total increase from 1935 to 1949 was considerably less than in the case of potatoes.

Farm Share of Retail Price - The farm share of the retail price appears to have remained relatively stable in the case of those commodities for which the

marketing margin increased markedly during the period 1935 to 1949.

In the case of fluid milk, where a relatively small increase in the actual margin occurred, the farm share of the retail price rose from 33 per cent in 1935 to 55 per cent in 1948. On the other hand, the farm share of the retail price of potatoes, where the actual margin increased very appreciably, rose only from a minimum of 51 per cent in 1935 to a maximum of 64 per cent in 1943.

It is of importance that the farm share for commodities which undergo little or no processing during marketing is much larger in general than for those which are highly processed. For example, there is a relatively small amount of processing involved in the marketing of fresh eggs. The farm share of the retail price varied from 70 to 80 per cent during the period 1935 to 1949. In contrast is the extensive manufacture and service involved in marketing white bread, and the relatively small farm share of the retail price of this product (10 to 20 per cent).

The farm shares of retail price of the nine commodities are shown in table 2.

Table 1. AVERAGE ANNUAL MARKETING MARGINS FOR NINE SELECTED COMMODITIES  
1935 to 1949

Year	Potatoes	Eggs	Fluid Creamery	Cheese, plain	Beef	Wheat	White	Canned	Bread	Tomatoes
	\$ - 15 lbs	\$ - doz.	\$ - qt.	\$ - lb.	\$ - 16, pkge.	\$ - 16	\$ - 16	\$ - 16	\$ - 16	\$ - 28oz. tin
1935	9.5	7.7	7.0	12.0	9.0	6.8	2.7	5.0	9.3	
36	11.5	7.3	6.5	11.8	9.7	7.1	2.6	5.2	10.0	
37	13.4	7.1	7.1	12.1	10.5	6.6	3.1	5.3	11.3	
38	9.1	7.3	7.5	12.8	10.9	7.8	3.6	6.0	9.7	
39	10.8	7.0	7.0	11.3	10.0	7.7	2.6	5.6	9.3	
1940	13.5	7.8	7.1	12.0	11.5	7.9	2.9	5.7	11.2	
41	12.6	9.5	7.1	11.4	13.6	8.1	2.8	5.7	11.6	
42	18.1	12.2	7.0	11.8	16.2	8.0	2.9	6.0	11.8	
43	17.2	13.2	7.3	12.2	15.3	9.4	3.1	6.0	12.6	
44	19.4	11.7	7.1	12.2	15.5	10.1	3.2	6.1	13.3	
1945	20.0	11.2	7.0	12.1	15.6	10.2	3.0	6.1	13.3	
46	19.5	11.0	7.0	12.5	15.6	10.2	3.0	6.0	13.2	
47	22.7	10.5	7.1	13.3	15.7	11.1	3.5	6.7	16.0	
48	27.7	12.0	7.9	14.1	18.1	12.7	3.8	8.1	22.0	
49	26.6	15.4	8.2	15.4	20.4	17.5	3.9	8.4	16.8	

Table 2. FARM SHARES AS PERCENTAGE OF RETAIL PRICE FOR NINE SELECTED COMMODITIES  
1935 to 1949

Year	Potatoes	Eggs	Fluid Creamery	Cheese, plain	Beef process	Wheat Comm Quality	White Flour	Bread	Canned Tomatoes
	All Grades	Milk	Butter	percentage					
1935	59.8	70.9	33.1	58.2	27.6	51.1	31.6	12.5	15.8
36	62.8	74.2	37.0	60.5	26.6	48.6	38.8	15.5	15.1
37	53.3	74.6	34.5	62.9	26.3	57.7	41.0	19.1	14.0
38	57.3	75.0	34.0	62.0	25.7	50.7	24.8	10.6	15.5
39	62.5	74.6	35.4	61.4	27.4	54.8	28.0	9.7	15.6
1940	56.0	72.5	37.3	61.8	27.0	57.0	27.3	10.0	14.2
41	55.2	70.3	40.0	70.1	28.0	61.2	28.6	10.6	15.9
42	57.5	69.7	44.5	71.7	31.6	65.5	31.7	12.0	17.0
43	63.9	71.0	44.5	73.8	33.9	65.0	37.5	15.3	17.9
44	57.6	72.2	47.6	74.5	35.0	63.8	39.8	17.1	18.5
1945	61.5	73.7	48.9	74.7	33.6	64.0	41.0	17.3	20.0
46	62.4	76.7	50.6	75.9	36.1	64.9	43.7	18.3	20.8
47	55.9	77.9	53.6	77.0	36.9	65.4	40.7	17.5	18.8
48	54.4	78.9	54.6	80.5	39.2	70.2	41.5	16.9	15.0
49	49.4	73.8	54.5	76.4	33.6	64.3	44.0	17.9	20.6

#### IV - RELATION OF MARKETING MARGINS TO CHARACTERISTICS OF PRODUCTION AND MARKETING

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The most important factor influencing the size of the marketing margin is the extent to which services are involved in getting products from the producer to the consumer. One of these, the changing of form which is required in the case of some farm products, is both extensive and costly. Another, transportation may be an important cost factor. This may result from the movement of products over great distances from areas of production to areas of consumption. Grading, storing and packaging are important in the marketing of some products and their cost may be relatively large. Expenses of selling must also be included. Then too, there is often considerable expense involved in delivering the final product to the consumer's home.

In addition to the foregoing major factors, there are others that affect the size of the margin. One of these relates to perishability. Losses due to spoilage during the marketing process and special refrigerated storage for perishable products are costly and tend to increase the margin. On the other hand, such products as wheat and canned goods may be stored over long periods of time in relatively inexpensive storage with little or no loss of product.

Another factor influencing marketing margins to some extent is the variability of production. The output of grain and other field crops varies widely from year to year depending as it does in such a great measure on the hazards of weather, disease and insect infestation. Marketing facilities for these products must be large enough to handle high levels of production. In many years there may be much unused plant capacity. In addition, plant capacity for many crops produced seasonally must be sufficiently large to handle peak seasonal production. Unused plant capacity during a season or year is a real cost of marketing.

The size of the marketing margin and the share of the retail price which is returned to the farmer for a commodity are determined in the main by the characteristics of production and marketing. The outstanding of these are presented below for each commodity.

Potatoes - Potatoes are produced in every province on farms of all sizes. The extent of production ranges from providing only the farmer's own requirements to producing large surpluses for disposal through commercial channels of trade. This wide-spread nature of production keeps transportation costs to a minimum and increases competition among producers in selling. However, the wide year to year variations in output lead to extreme fluctuations in annual prices paid to producers.

The processing of this product is limited to cleaning, grading and packaging. These functions have been gradually improved and extended over the period covered by this study. However, the costs involved are still relatively low. Assembling, distributing and storage costs may be expected to account for a relatively high percentage of the marketing margin because of the weight and bulkiness of the product and because of the seasonal nature of production.

Wholesaling and retailing are important functions in the marketing process. It is customary for middlemen to determine their margin or mark-up as a percentage of their cost although it may be expressed as a percentage of their selling price. As a result, the total marketing margin of potatoes may be expected to be relatively flexible.

Eggs - There is wide-spread production of eggs in Canada with some concentration and specialization. Although production is continuous throughout the year, there are definite seasons of high production and low production. This product is very perishable with a high value and low bulk.

Transportation costs per unit are relatively low mainly because eggs are not bulky. This is in contrast to the situation prevailing with potatoes which are bulky although they are not usually shipped over long distances. The large number of producers and the wide-spread nature of production leads to competition in selling. Likewise, the large number of handlers leads to competition in buying.

Processing is limited to grading and packaging, which are somewhat more costly functions than for potatoes. Wholesaling and retailing are important marketing functions. The practice of middlemen particularly retailers, determining their margin as a percentage of their costs results in great flexibility as compared with margins which include a large amount of processing costs.

Milk - Milk for the fluid milk trade is produced throughout Canada. In the main, it is a specialized business with a noticeable concentration of production in the more densely populated areas. Farmers sell, for the most part, under contract at negotiated or established prices. In many areas, associations of producers represent members in negotiating prices and in the actual marketing of products.

Assembling costs for fluid milk are relatively high because of its bulk and extreme perishability. Grading, standardizing, transporting and financing on the other hand, make up only a relatively small portion of the marketing costs as compared with more highly processed products. Storage is included under processing which is not in itself very extensive. Pasteurizing, bottling and distributing are the three outstanding expensive functions in the marketing of this product - costs which tend to change but slowly. During the war Government assistance in the form of producer subsidies played an important part in the fluid milk industry.

Butter - The outstanding feature of this phase of the dairy industry is the fact that production is carried on by a large number of small scale cream producers. On only a small proportion of these farms is cream production a major enterprise. Cream producing farms are located throughout the country with surplus production occurring mainly in the Prairie Provinces. British Columbia, Ontario and the Maritime Provinces are, for the most part, deficit producing areas. There is active competition in the buying and selling of cream. Farmers are paid on the basis of grade.

Grading, storing, transportation and financing of butter are more extensive functions than in the case of fluid milk. Manufacturing is an important function of the marketing process and is characterized by much unused plant capacity during the winter months.

Notwithstanding the relatively high cost of processing and primary distribution, retail costs of distributing this product are relatively low because of the absence of expensive service charges and because the unit value of butter is high and because competition among retailers is active. This tends to keep the margin relatively narrow. During the war and post-war periods, producer subsidies were paid by the Government. These increased the farm price and thus the farm value without affecting the apparent margin.

Process Cheese - Canada's cheese production is concentrated in Ontario and Quebec but there is also some production in the Western provinces. Usually the farms producing milk for cheese factories are quite specialized.

The marketing of process cheese may be divided into two phases; the first ending with the production of cheddar cheese; the second ending with process cheese. The characteristics of the first phase are similar to those for creamery butter. In the second phase, however, there are a number of important differences. Processing, packaging and distribution increase and the scale of operation is greater. Advertising is more important and the retail mark-up is larger. The costs associated with the manufacture and sale of process cheese account for the wide marketing margin of this product.

Beef - Beef is produced on a wide variety of farms throughout the country. There are, however, many specialized beef producing farms, particularly in Ontario and Alberta.

The outstanding feature of beef marketing is the large number of operations involved. This includes the slaughter of live stock, separation of edible from inedible portions of the carcass, cooling, cutting carcass into wholesale cuts, and the final cutting in the retail stores to meet consumer needs. This processing involves extensive plant equipment and skilled labour.

There are two distinct types of processors operating in Canada. A large part of this product, perhaps 50 per cent, is handled by a relatively few large-scale companies. The balance is handled by hundreds of small-scale packers and retail butcher shops, which may perform all of the functions in the marketing process.

Financing, grading and storing charges are relatively small per unit of product. Transportation and distribution costs are relatively high due to the perishability of live stock and meat. Idle plant capacity during spring and summer months can be extremely important costs.

The packers' margin is based upon actual costs of the various operations. These costs are relatively small per unit of retail product. They are made up of payments for labour, management, plant equipment, and for interest on investment, and are relatively inflexible as compared with the prices paid for raw

materials. The retailers' margin, on the other hand, is calculated as a percentage mark-up which has been estimated as sufficient to cover all costs of retailing; this is usually 33 per cent of the retailers' cost or 25 per cent of his selling price. The cost of retailing is relatively large in comparison to the cost of other functions. It makes up an important part of the total margin.

Wheat Flour and Bread - More than 90 per cent of Canada's wheat is produced in the Prairie Provinces and substantial transportation and handling costs are involved in getting the product to the consumer in areas of concentrated populations. The production of wheat in this area is characterized by extreme variations in weather, disease and insect infestations, which result in wide variations in output. Facilities for marketing wheat must be of such magnitude as to take care of these variations. Costs are influenced to some extent by this condition. While these factors contribute substantially to the size of the marketing margin, the cost of handling, warehousing and processing are relatively low per unit because of the high degree of mechanization in all phases of the marketing process and because of the large scale nature of the industry.

Conversion of wheat into flour and marketing of flour involves extensive processing and many steps in distribution. Included in the latter are, transportation, packaging, storing, financing and advertising. Because of the variations in production, capacity for storing and processing must be large and accordingly must be in excess of requirements from time to time.

The manufacture and marketing of bread are important and costly operations. However, unused plant capacity does not present a problem of the same importance as it does in the manufacture of flour. Packaging, advertising and transportation costs are larger, and perishability presents a greater problem.

Government policies have played an important role in the marketing of flour and bread since 1940. The most important of these was the payment of a drawback to millers for flour produced for the domestic market. This was effective from 1942 to 1949 and at times amounted to 50 per cent of the wholesale value of wheat. Participation payments to producers for the 1940/41 to 1949/50 crops increased the farm price and thus the farm share without affecting the retail price. In this way the margin appeared to be reduced.

Canning Vegetables - Canning vegetables have almost identical characteristics of production and marketing. Ontario is the main producing area although some are produced in Quebec, British Columbia, and Alberta. Within these provinces there is further concentration of production in the regions with the most suitable climate and soil. Specialization of production is not complete because of the dangers of unfavourable weather conditions. The extreme perishability of these crops makes the vegetable canning industry vulnerable to labour conditions of even short duration. Most producers are now organized to sell under contract at prices negotiated by a market board. Processing, packing, transporting, distributing, storing and financing charges are all relatively high. Unused plant capacity is an important cost of processing. The canned product may be stored over long periods of time. This, together with the seasonal nature of production, increases the marketing margin.

## V - RELATION OF THE MARKETING MARGIN TO THE GENERAL PRICE LEVEL

The cost of marketing the majority of the nine agricultural products, as reflected by the marketing margin, increased during the period under study. However, the prices of many other goods and services have also increased during the same period. The general wholesale price index may be used as a measure of the general level of wholesale prices in Canada. If there has been a larger increase in the marketing margin than in the general wholesale price index, it may be concluded that there has been an increase in the 'real' cost of marketing in addition to an increase in the 'money' cost. If, however, there has been a greater increase in the prices of all goods and services, as reflected in the general wholesale price index, than in the marketing margin, it would lead one to the conclusion that the 'real' cost of marketing had not increased even though the money cost had shown a tendency to rise.

In table 3 is shown the 'real' cost of marketing the nine agricultural commodities. This was computed by dividing the marketing margin by the general wholesale price index (1926 = 100). It should be noted that the general wholesale price index increased gradually from 1935 to 1946 and then rose from 108.6 in 1946 to 129.1 in 1947 and 153.2 in 1948.

The 'real' cost of marketing potatoes increased fairly irregularly to 1942 and then showed a tendency to level off. The 'real' cost of marketing eggs and cheese showed a similar tendency but declined during the last few years.

The 'real' cost of marketing fluid milk, butter, flour and white bread declined gradually during the 15-year period. That is, the costs of all commodities increased more than the costs of marketing these products. The cost of marketing beef does not appear to have shown any marked tendency to increase or decrease during the period under study.

## VI - RELATION OF FARM SHARE TO RETAIL PRICES

In periods of rising prices the prices received by farmers increase more rapidly than the prices paid at retail. This is because the costs of marketing -- transportation, wages, taxes, interest, rent ... tend to change but slowly and consequently farmers receive for their products a larger share of the prices paid by the ultimate consumer. Conversely and for the same reasons, when prices are declining the prices of farm products and the share received by farmers decline more rapidly than the retail price level.

The rate of increase in farm share accompanying rises in retail prices varies considerably among products. It is very small for such products as potatoes and eggs which are not processed and whose handlers employ, to a large extent, a percentage mark-up method as compensation for their services. As processing becomes more extensive, it is found that the farm share increases more rapidly with given increases in the retail price. In Chart 1 is shown

Table 3 - AVERAGE ANNUAL REAL COST OF MARKETING NINE SELECTED COMMODITIES  
1935 to 1949

Year	Potatoes \$-15lbs.	Eggs \$-doz.	All Grades \$-qt.	Fluid Milk \$-16.	Creamery Milk \$-16.	Butter \$-process.	Cheese, Plain \$-16. pkge.	Beef \$-16. lb.	Wheat \$-16. bushel	Flour \$-16. 50 lbs.	Bread \$-16. loaf	White Wool \$-16. doz.	Canned Tomatoes \$-28oz. tin
1935	13.2	10.7	9.7	16.6	12.5	9.4	9.4	9.4	3.7	6.9	12.9	14.4	14.4
36	15.4	9.8	8.7	15.8	13.0	9.5	9.5	9.5	3.5	7.0	13.4	14.4	14.4
37	15.8	8.4	8.4	14.3	12.4	7.8	7.8	7.8	3.7	6.3	13.4	14.4	14.4
38	11.6	9.3	9.5	16.3	13.9	9.9	9.9	9.9	4.6	7.6	12.3	14.4	14.4
39	14.3	9.3	9.3	15.0	13.3	10.2	10.2	10.2	3.4	7.4	12.3	14.4	14.4
1940	16.3	9.4	8.6	14.5	13.9	9.5	9.5	9.5	3.5	6.9	13.5	14.4	14.4
41	14.0	10.6	7.9	12.7	15.1	9.0	9.0	9.0	3.1	6.3	12.9	14.4	14.4
42	18.9	12.8	7.3	12.3	16.9	8.4	8.4	8.4	3.0	6.3	12.3	14.4	14.4
43	17.2	13.2	7.3	12.2	15.3	9.4	9.4	9.4	3.1	6.0	12.6	14.4	14.4
44	18.9	11.4	6.9	11.9	15.1	9.8	9.8	9.8	3.1	6.0	13.0	14.4	14.4
1945	19.3	10.8	6.8	11.7	15.0	9.8	9.8	9.8	3.0	5.9	12.8	14.4	14.4
46	18.0	10.1	6.4	11.5	14.4	9.4	9.4	9.4	2.8	5.5	12.2	14.4	14.4
47	17.6	8.1	5.5	10.3	12.2	8.6	8.6	8.6	2.7	5.2	12.4	14.4	14.4
48	18.1	7.8	5.2	9.2	11.8	8.3	8.3	8.3	2.5	5.3	14.4	14.4	14.4
49	16.9	9.8	5.2	9.8	13.0	11.1	11.1	11.1	2.5	5.4	10.7	14.4	14.4

the relationship of farm share to retail price of potatoes and eggs. The retail products of the second group (butter, beef, fluid milk and cheese) undergo a considerable change from the form of the original farm products. In addition, the processors do not, as a rule, apply the percentage mark-up method for covering their costs. Processors establish an asking price for their finished product based on current relatively inflexible costs of operations. Their mark-up is in cents per pound of product and tends to be more stable than the prices paid for raw material - that is, the margin in cents per pound tends to vary less than the prices paid for agricultural commodities. The relationship of farm share to retail price of these products is also shown in Chart 1. A margin of this type tends to be larger, relative to the cost of the agricultural raw product when retail prices are low, than when they are high. A percentage mark-up, on the other hand, bears the same relationship to the cost of the raw material regardless of the level of costs. There is a larger number of relatively rigid costs in the marketing process of these four products and such costs make up a larger proportion of the consumers dollar than is found to be the case for such commodities as potatoes and eggs.

The farm share of the retail value of wheat flour and bread increases very rapidly for each unit increase in the retail value. The marketing process, including manufacturing, is even more extensive than for the above mentioned products. The number and amount of relatively fixed charges for transforming wheat at the farm to flour and bread in retail stores are greater than for any of the products already considered. As a result, the farm share of the retail value is the smallest of the group of commodities being considered.

In short, the greater the amount of processing, the greater the amount of fixed charges and the more variable the share of the consumers dollar received by farmers.

The tendency of relationship between the farm share and retail values, as well as the relationships among the eight products, eggs, potatoes, beef, cheese, butter, milk, flour and bread, is given in the dot charts, Chart 1. The drift of dots representing an average relationship between the farm share and retail value is horizontal or slightly rising from the lower to the higher retail values for eggs and potatoes. The farm share for beef, cheese, butter, and fluid milk, follow an average tendency to rise more rapidly with increases in retail value. The plotted values of flour and bread indicate a tendency for a large increase in farm share with relatively small increases in retail values.

The relationship between farm shares of retail value and the retail value for canned tomatoes, reflects the tendency for a slight rise in farm share to accompany a large increase in retail prices. On the basis of the degree of manufacturing of the farm product, one might expect a relatively large increase in farm share to accompany a given change in retail value. This expected relationship may not have been achieved in the case of canned vegetables due to the practice of contracting for canning vegetable acreages and the high degree of storability of the canned product.

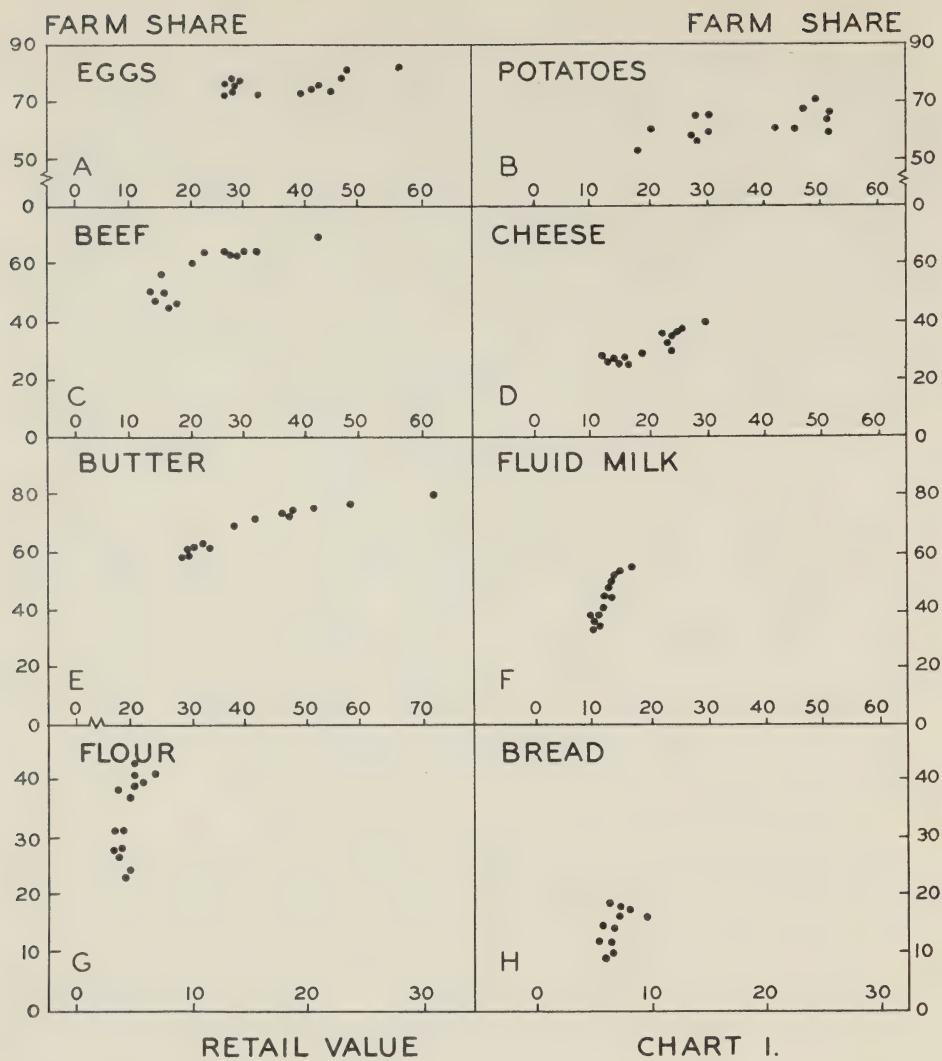


Chart 1 - Relationship between Retail Price and Farm Share of  
Retail Price for Eggs, Potatoes, Beef, Cheese, Butter,  
Milk, Flour and Bread, Canada Annual 1935-48.

VII - APPENDIX: DETAILS OF CALCULATIONS

Potatoes

Farm Equivalent Weight: The farm weight equivalent of 15 pounds of potatoes at the retail level has been estimated to be 16.2 pounds or 8 per cent above the retail weight. This is based upon figures compiled by the United States Department of Agriculture and which are considered to be reasonably applicable to Canadian conditions.

Eggs

Prices: The average retail price was adjusted to fit the description, Eggs, Grade A Large. The farm price is the Canadian average price for all eggs as derived from a monthly survey of egg production and sales conducted by the Dominion Bureau of Statistics.

In order to bring these two prices to a comparable basis the retail price was adjusted to apply to all eggs. This was done by adjusting the retail prices of five grades as reported by the Egg and Poultry Market Report for 12 Canadian cities to correspond to the Dominion Bureau of Statistics' national average retail price of Grade A Large, weighting these five prices by inspections or marketings of each grade, and using the weighted average price so obtained as the retail price of all grades for Canada. The inspections of each grade used for weighting from 1935-46 are not considered to be more than a rough estimate, whereas the marketing figures used in 1947-48 are considered to be more reliable.

Farm Equivalent Weight, By Product Allowance and Payments for All Eggs

Spoilage and breakage account for a loss in eggs between farm and retail which has been estimated at two to four per cent in Canada. A conversion factor of 1.03, developed by the Bureau of Agricultural Economics, U.S.D.A., has been adopted to convert farm eggs to their retail equivalent.

There is no by-product of eggs, nor have there been any government payments or taxes. (Table 5)

Fluid Milk

Prices: The Canadian retail price of fluid milk is a regional average weighted by population. It refers throughout to one imperial quart. The farm price is the unweighted average price paid to farmers by all the distributors in a selected sample of towns and cities covering all population groups of the census. The price includes all producer subsidies.

This farm price is the average received by fluid milk shippers for all their milk, including that which is shipped in excess of their quotas and for which manufacturing prices are paid. Although this is not entirely consistent with the procedure followed in the case of other commodities, it was necessary to use the "blend price" because "top prices" are not available prior to 1945.

Table 4 - POTATOES: PRICES, ADJUSTMENTS, MARGIN AND FARM SHARE  
CANADA - ANNUAL 1935-49

Description	Unit	1935:	1936:	1937:	1938:	1939:	1940:	1941:	1942:	1943:	1944:	1945:	1946:	1947:	1948:	1949:
Retail Price	\$ per peck (15 lbs.)	19.3	30.9	28.7	21.3	28.8	30.7	28.1	42.6	47.7	45.8	51.9	51.8	51.5	60.7	52.5
Farm Price	\$ per cwt.	60.8	120.0	94.5	75.3	110.9	105.9	95.9	151.5	188.0	163.1	197.1	199.4	177.8	203.9	160.0
Farm Value	\$ per 16.2 lbs. <sup>1/</sup>	9.8	19.4	15.3	12.2	18.0	17.2	15.5	24.5	30.5	26.4	31.9	32.3	28.8	33.0	25.9
Marketing Margin	\$ per peck	9.5	11.5	13.4	9.1	10.8	13.5	12.6	18.1	17.2	19.4	20.0	19.5	22.7	22.7	26.6
Farm Share of Retail Price	Per cent	50.8	62.8	53.3	57.3	62.5	56.0	55.2	57.5	63.9	57.6	61.5	62.4	55.9	54.4	49.4

<sup>1/</sup> Farm equivalent weight.

Table 5 - EGGS, ALL GRADES: PRICES, ADJUSTMENTS, MARGIN AND FARM SHARE  
CANADA - ANNUAL 1935-49

Description	Unit	1935:1936:1937:1938:1939:1940:1941:1942:1943:1944:1945:1946:1947:1948:1949	19
Retail Price	¢ per dozen	26.5 28.3 28.0 29.2 27.6 28.4 32.0 40.3 45.5 42.1 42.6 47.2 47.6 56.9 58.7	
Farm Price	¢ per dozen	18.3 20.4 20.3 21.3 20.0 20.0 21.8 27.3 31.4 29.5 30.4 35.2 36.0 43.6 42.0	
Farm Value	¢ per dozen <sub>1/</sub>	18.8 21.0 20.9 21.9 20.6 20.6 22.5 28.1 32.3 30.4 31.4 36.2 37.1 44.9 43.3	
Margin	¢ per dozen	7.7 7.3 7.1 7.3 7.0 7.8 9.5 12.2 13.2 11.7 11.2 11.0 10.5 12.0 15.4	
Farm Share	Per cent	70.9 74.2 74.6 75.0 74.6 72.5 70.3 69.7 71.0 72.2 73.7 76.7 77.9 78.9 73.8	

1/ Farm equivalent weight.

Table 6 - FLUID MILK: PRICES, ADJUSTMENTS, MARGIN AND FARM SHARE  
CANADA - ANNUAL 1935-49

The marketing margin and the farm share of the retail price has been calculated on the basis of the retail price for fluid milk and the farm price for class I fluid milk covering the period for which data are available. These are shown in Table 7.

Table No. 7 - FLUID MILK: PRICES, ADJUSTMENTS, MARGINS AND FARM SHARES, BASED ON FARM PRICES OF CLASS I FLUID MILK, CANADA 1945 to 1949.

Description	Unit	1945	1946	1947	1948	1949
Retail Price	¢ per qt.	10.4	12.3	15.3	17.3	17.9
Total subsidies	¢ per qt.	3.2	1.9			
Adjusted Retail Price	¢ per qt.	13.6	14.2			
Farm Price (top price class I)	¢ per cwt.	273.0	296.0	336.0	384.0	386.0
Farm Value	¢ per qt.	7.0	7.6	8.7	9.9	10.0
Actual Margin	¢ per qt.	3.4	4.7	6.6	7.4	7.9
Adjusted Margin	¢ per qt.	6.6	6.6			
Farm Share of Actual Retail Price	Per cent	67.3	61.8	56.9	57.2	55.9
Farm Share of Adjusted Retail Price	Per cent	51.5	53.5			

It is to be noted that the actual marketing margin, based on the farm price for Class I milk, is one-half a cent, or less, below that based on the blend farm price.

#### Creamery Butter

Prices: The high percentage of first grade butter (80-90), and the small price differential between grades makes unnecessary a calculation of a weighted average retail price for all grades. The greatest difference in any year from 1935 to 1949 between weighted all grade price and first grade price was 0.3 cent per pound. For this reason, the average retail price of first grade creamery butter was used. The farm price is the Bureau of Statistics' farm correspondents' national average for all butterfat sent to creameries.

Farm Equivalent Weight: Butter provides one of the few examples of a commodity for which the farm equivalent weight is smaller than the retail weight. This is caused by the overrun in the manufacturing of the product. The average overrun is estimated at 22 per cent which results in a farm equivalent weight of .81967 pound butterfat equalling one pound of butter.

Table 8 - BUTTER, CREAMERY: PRICES, ADJUSTMENTS, MARGINS AND FARM SHARES  
CANADA - ANNUAL 1935-49

Description	Unit	1935:1936:1937:1938:1939:1940:1941:1942:1943:1944:1945:1946:1947:1948:1949	22
Retail Price	¢ per lb.	28.7 29.9 32.6 33.7 29.3 31.4 38.1 39.2 39.4 39.6 39.7 43.6 55.1 72.4 65.4	
Subsidies	¢ per lb. B.F.	.81967	2.5 7.1 8.2 8.2 8.2 2.7
Adjusted Retail Price	¢ per lb.		41.7 46.5 47.8 47.9 51.8 57.8 72.4
Farm Price	¢ per lb. B.F.	20.4 22.1 25.0 25.5 21.9 23.7 32.6 36.5 41.8 43.4 43.7 48.0 54.3 71.1 61.0	
Farm Value	¢ per lb. B.F. 1/	16.7 18.1 20.5 20.9 18.0 19.4 26.7 29.9 34.3 35.6 35.8 39.3 44.5 58.3 50.0	
Marketing Margin	¢ per lb.	12.0 11.8 12.1 12.8 11.3 12.0 11.4 9.3 5.1 4.0 3.9 4.3 10.6 14.1 15.4	
Adjusted Marketing Margin	¢ per lb.		11.8 12.2 12.2 12.1 12.5 13.3
Farm Share of Retail Price	Per cent	58.2 60.5 62.9 62.0 61.4 61.8 70.1 76.3 87.1 89.9 90.2 90.1 80.8 80.5 76.5	
Adjusted Farm Share of Retail Price	Per cent		71.7 73.8 74.5 74.7 75.9 77.0
1/ Farm equivalent weight.			

By-Product Allowance: Buttermilk is the recognized by-product of the butter-making industry. Under certain favourable circumstances, this may be of considerable value. However, for the Canadian butter industry as a whole, it provides a negligible portion of the total revenue. Hence no by-product allowance has been calculated for butter.

Subsidies: Creamery butter was another commodity on which government subsidies were paid during the latter years of the period covered by this study. These, which were all producer subsidies, are listed in Table No. 5.

Table No. 9 CREAMERY BUTTER SUBSIDIES IN CANADA  
1942-47

Dates Effective	Rate of Subsidy
	¢ per lb. butterfat
July 6/42 - Dec 20/42	6
Dec. 21/42 - Apr. 30/43	10
May 1/43 - Dec. 31/43	8
Jan. 1/44 - Apr. 30/47	10

These subsidies were averaged on a yearly basis using time weights. (Table 8)

#### Plain Process Cheese

Prices: The grade quoted in the original Bureau of Statistics' retail price series changed more often than did that of any other product. Furthermore, the latest change, made in 1947, was from cheddar cheese to process cheese. Although these alterations may have reflected more accurately changes in consumer habits and hence the cost-of-living, for which these prices are collected, they have produced problems for this study. It may be unsound to assume, as has been necessary here, that the relationship between the price of cheddar cheese and plain process cheese would be the same in 1935 or even 1940 as it was in 1947. Yet this assumption has been necessary in developing a retail price series for this study. This should be kept in mind when analysing the cheese data.

The farm price was a derived price computed by the Dominion Bureau of Statistics. A basic price was taken as the cost of milk to cheese factories divided by the pounds of milk received which in turn was calculated from the quantity of cheese made. An estimated average hauling charge was subtracted from the basic price and all Provincial and Federal subsidies, premiums, bonuses, patronage dividends, etc., were added to obtain the final national average farm price for cheese milk.

Farm Equivalent Weight: The calculation of the farm equivalent weight of cheese was made in two steps. The first step was the conversion of milk to cheddar cheese at the rate of 11.14 pounds of milk to one pound of cheddar cheese. The second was the conversion of cheddar cheese to plain process cheese. Data concerning this step were obtained from the manufacturers who produce over 75 per cent of Canadian process cheese. The conversion factor for the output of these firms was 75 pounds of cheddar cheese per 100 pounds of plain process cheese. These two factors combine to produce a farm equivalent weight of 4.1775 pounds of cheese milk equalling  $\frac{1}{2}$  pound of plain process cheese. It should be noted that allowance has not been made for the milk powder or butterfat also employed in the manufacture of process cheese because of their secondary importance in the retail product.

By-Product Allowance: Whey, the by-product of cheese making, falls in much the same category as buttermilk as far as by-product allowance is concerned. Hence no allowance was made for it.

Subsidies: Assistance and subsidies in one form or another have been available to producers of milk for the manufacture of cheese for a period of years. These have taken the following forms: Federal assistance in the form of (1) quality premium, (2) producer subsidy for cheese milk, (3) cheese factory improvement loans, and (4) export premium; Provincial assistance in Ontario and Quebec in the form of a quality premium. Only two of these, namely the quality bonus and the producer subsidy for cheese milk are of sufficient importance for inclusion in this study.

The federal subsidies per retail unit were calculated from actual payments made, whereas the provincial bonuses were calculated from the official subsidy rate. The former method was considered to be somewhat more accurate but satisfactory data were not available for provincial subsidies. In Tables No. 10 and 12 are listed the different subsidies paid into the cheese making industry, which were considered in this study.

Table No. 10 - CHEESE SUBSIDIES IN CANADA, 1939-48

Dates Effective	Grades	Subsidy ¢ per lb.
<u>Federal Quality Premium</u>		
July 1, 1939	94 score	2
	" "	1
<u>Ontario Premium</u>		
Feb. 1, 1941 to Dec. 31, 1944	All grades	2
June 1, 1945 to Nov. 27, 1945	" "	2
June 1, 1946 to Oct. 12, 1946	" "	2
June 1, 1947 to Nov. 30, 1947	" "	2
July 26, 1948 to Oct. 31, 1948	" "	2
<u>Quebec Quality Premium</u>		
May 1, 1941 to Dec. 1, 1942	1st	2
July 1, 1943 to Oct. 31, 1944	"	

Table 11 - CHEESE, PLAIN PROCESS: PRICES, ADJUSTMENTS, MARGIN AND FARM SHARE  
CANADA - ANNUAL 1935-49

Description	Unit	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Retail Price	\$ per $\frac{1}{2}$ lb.pkg.	12.4	13.2	14.2	14.7	13.5	15.4	17.8	22.7	22.1	22.0	22.5	24.1	29.2	30.5	
Total Subsidies	\$ per $\frac{1}{2}$ lb.pkg.					.2	.3	1.1	1.0	1.1	1.9	1.5	1.9	.8	.6	
Adjusted Retail Price	\$ per $\frac{1}{2}$ lb.pkg.					13.7	15.7	18.9	23.7	23.2	23.9	23.5	24.4	24.9	29.8	
Farm Price of Cheese Milk	\$ per cwt.	81.9	84.1	89.3	90.3	89.6	101.3	126.6	179.3	188.8	200.2	189.0	211.0	220.0	279.0	245.0
Farm Value	\$ per $\frac{1}{2}$ lb. (milk)	3.4	3.5	3.7	3.8	3.7	4.2	5.3	7.5	7.9	8.4	7.9	8.8	9.2	11.7	10.2
Actual Margin	\$ per $\frac{1}{2}$ lb.pkg.	9.0	9.7	10.5	10.9	9.8	11.2	12.5	15.2	14.2	13.6	14.1	13.7	14.9	17.5	20.3
Adjusted Margin	\$ per $\frac{1}{2}$ lb.pkg.					10.0	11.5	13.6	16.2	15.3	15.5	15.6	15.6	15.7	18.1	
Farm Share of Actual Retail Price	Per cent	27.6	26.6	26.3	25.7	27.7	27.5	29.7	33.0	35.7	38.0	35.9	39.2	38.1	39.9	33.6
Farm Share of Adjusted Retail Price	Per cent															
		27.4	27.0	28.0	31.6	33.9	35.0	33.6	36.1	36.9	39.2					

Table No. 12 - FEDERAL CHEESE MILK SUBSIDIES IN CANADA  
1943-47

Dates Effective	Subsidy
	¢ per 100 lbs.
Oct. 1, 1943 to Apr. 30, 1944	30
May 1, 1944 to April 30, 1946	20
May 1, 1946 to Apr. 30, 1947	30

Beef

Prices: Retail price series are available for the following five cuts of commercial quality beef: sirloin steak, round steak, rib roast, blade roast, and stewing beef. A retail price for commercial quality beef carcass was derived from the prices for the five cuts. This was accomplished in the following steps:

- (1) The total weight of each cut was secured from beef cut-out experiments.
- (2) The relation of the weight of each cut to the total weight of the carcass was expressed as a percentage.
- (3) The weighted average retail carcass price was obtained by averaging the prices of each of the five cuts using the percentages obtained in (2) above as weights. This amounted to 82 per cent of the value of the carcass.

The farm prices as reported to the Dominion Bureau of Statistics refer to all grades of cattle sold. Medium steers and heifers were considered to be representative of animals producing commercial quality beef. Therefore, it was necessary to determine the farm price of medium steers and heifers. This was done by obtaining the relationship between the average wholesale price of these two grades and the average wholesale price of all cattle for each year. This relationship was applied to the farm price of all cattle to obtain a farm price for medium steers and heifers which was comparable to the retail price of commercial quality beef.

Farm Equivalent Weight: A dressing percentage of 52 per cent was selected as representative of commercial beef from cattle slaughter tests carried out by the Canadian Meat Board in 1945-46. This represents a farm equivalent weight of 1.92 pounds.

By-Product Allowance: Information concerning weights and values of beef carcasses and by-products was obtained from cattle slaughter tests carried out in 1945-46. The relationship of the value of by-products to the value of the whole animal was computed. This percentage was applied to the farm value of the farm equivalent weight to obtain a value comparable to the retail

Table 13 - BEEF, COMMERCIAL QUALITY: PRICES, ADJUSTMENTS, MARGIN AND FARM SHARE  
CANADA - ANNUAL 1935-49

Description	Unit	1935:1936:1937:1938:1939:1940:1941:1942:1943:1944:1945:1946:1947:1948:1949
Retail Price	¢ per lb.	13.8 13.8 15.6 15.9 17.0 18.3 20.8 23.1 27.0 27.9 28.2 29.0 32.0 32.6 49.0
Farm Price	¢ per lb.	4.5 4.2 5.8 5.0 5.8 6.5 7.9 9.3 10.7 10.8 11.0 11.4 12.9 18.2 19.2
By Product Allowance	¢ per lb.	.8 .7 1.1 .8 .9 1.1 1.2 1.4 1.6 1.6 1.6 1.6 2.0 2.7 2.8
Net Farm Value	¢ per lb.	3.7 3.5 4.7 4.2 4.9 5.4 6.6 7.9 9.2 9.3 9.4 9.8 10.9 15.6 16.4
Net Farm Value	¢ per 1.92 lbs. <sup>1/</sup>	7.0 6.7 9.0 8.1 9.3 10.4 12.7 15.1 17.6 17.8 18.0 18.8 20.9 29.9 31.5
Margin	¢ per lb.	6.8 7.1 6.6 7.8 7.7 7.9 8.1 8.0 9.4 10.1 10.2 11.1 12.7 17.5
Farmers' Share	Per cent	51.1 48.6 57.7 50.7 54.8 57.0 61.2 65.5 65.0 63.8 64.0 64.9 65.1 70.2 64.3

<sup>1/</sup> Farm equivalent weight.

price of one pound of beef carcass.

Subsidies: There have been no subsidies, taxes or other payments of any kind connected with the marketing of beef during the period under study. (Table 13)

Wheat Flour

Prices: The retail price has been adjusted to represent the final description "Flour, Family First Grade, in 7 lb. bags". The farm price was the average price received by farm correspondents for all wheat as secured by the Dominion Bureau of Statistics. Since 1940, however, this price has been subject to adjustment to include participation payments which have been paid, or authorized, subsequent to the initial payment. Because these payments have been of considerable size they have affected the size of both the margin and the farm share. It may be contended that such payments were the result of export sales of wheat rather than domestic sales and so may not be considered applicable to the domestic farm price. However, it is reasonable to assume that if prices of wheat were not subject to control, domestic and export prices would be equalized.

In order to satisfy these two views, at least in part, two sets of margins and farm shares were computed for the years 1944 to 1948. The first set was derived using only the initial payment as the farm price of wheat; in the second set, the initial payment plus all participation payments were used.

Wholesale prices of flour and mill feeds (selling value at the mill), and screenings (value of screenings exported), were secured from the "Report on the Flour and Feed Milling Industry in Canada" published by the Dominion Bureau of Statistics.

Quality Differential: The farm price refers to all grades of wheat sold while the retail price refers to first grade flour. However, no adjustment has been made in the grade of flour due to the minor nature of the difference that would have resulted from adjusting the grade of flour to make it comparable with all grades of wheat.

Farm Equivalent Weight: The number of pounds of wheat milled plus the dockage at the elevators (2.171% of wheat milled) was divided by the number of pounds of flour produced to represent the number of pounds of farm wheat required to produce one pound of flour. This gave a farm equivalent weight which was calculated for each year from 1935-1940 and the average (1.41283 lbs.) was used for the whole period. The inclusion of George Rex export flour 1/ during the war years influenced the total extraction rate.

By-Product Allowance: By-products of flour milling include screenings from the grading operations, and bran, shorts and middlings from the milling processes. The amount of screening is calculated from the amount of wheat milled, using the average dockage for the whole period (2.171% of wheat milled). The price of screening used, the only one available, was derived from the value of screenings exported. The value of the mill feeds and flour were calculated

1/ George Rex export flour, purchased under agreement with the United Kingdom Ministry of Food, packed in bags without a brand name.

Table 14 - WHEAT FLOUR: PRICES, ADJUSTMENTS, MARGIN AND FARM SHARE  
CANADA - ANNUAL 1935-49

from the total annual production and value at the factory as reported in the "Flour and Feed Milling Industry", published by the Dominion Bureau of Statistics.

Miller's Drawback: A subsidy was paid to the flour milling industry during the period September 1942 to March 1949 as part of the government's program to keep down the cost-of-living. It took the form of a drawback paid to the millers in order to reduce their cost of wheat. In Table No. 15 is shown the amounts paid during the various periods. This amount, averaged for the year where necessary, was added to the retail price in the calculation of the adjusted retail price.

Table No. 15 - MILLERS DRAWBACK PAYMENTS IN CANADA  
1942-49

Period	Amount	Annual	Average
		¢ per bushel	
Aug. 1/42 to Sept. 27/43	Wholesale price No. 1 N. in store Ft. Wm., less 77 3/8¢	1942 - 5.2 1943 - 30.2 1944 - 47.6	
Sept. 27/43 to Feb. 16/47	1.25 - .774 = 47.6¢ bushel		1945 - 47.6
Feb. 17/47 to Sept. 13/47	1.585 - .774 = 81.1¢ bushel		1946 - 47.6
Aug. 1/48 to Aug. 31/48	200 - 155 = 45¢ bu.		1947 - 54.9
Sept. 1/48 to March 1949	205 - 158.5 = 46.5¢ bushel		1948 - 19.3

Processing Levy: During the period July 24, 1940 to July 31, 1941, a tax was placed on the flour milling industry. It was called a processing levy and fluctuated between 35 and 70 cents per barrel. These rates, averaged for each calendar year and reduced to a Farm Equivalent Weight basis, were deducted from the retail price in the calculation of the adjusted retail price. (Table 14)

#### White Bread

Calculations for white bread were mainly continuations of those completed for wheat flour.

Prices: The average retail price refers to "Plain White Bread": throughout the period. Like fluid milk, the national average retail price is an average of the provincial or regional prices weighted by population.

Table 16 - WHITE BREAD: PRICES, ADJUSTMENTS, MARGIN AND FARM SHARE  
CANADA - ANNUAL 1935-49

Description	Unit	1935; 1936; 1937; 1938; 1939; 1940; 1941; 1942; 1943; 1944; 1945; 1946; 1947; 1948; 1949
Retail Price-Bread	\$ per lb.	5.7
Processing Levy-Wheat	\$ per .8378 lb.	6.1
Millers Drawback-Wheat	\$ per .8378 lb.	.1
Adjusted Retail Price - Bread	\$ per lb.	6.4
Farm Price - Wheat No Participation Payments	\$ per bu.	60.0
Farm Value - Wheat By-Product Allowance	\$ per .8378 lb. \$ per .8378 lb.	78.6 1.5 .2 .1
Net Farm Value	\$ per .8378 lb.	.7
Marketing Margin	\$ per lb.	5.0
Adjusted Marketing Margin	\$ per lb.	5.2
Farm Share of Retail Price	Per cent	12.5
Adjusted Farm Share of Retail Price	Per cent	10.6
Farm Price - Wheat - All Participation Payments	\$ per bu.	141.2
Farm Value - Wheat By-Product Allowance	\$ per .8378 lb. \$ per .8378 lb.	153.8 2.1 .2 .3
Net Farm Value	\$ per .8378 lb.	1.5
Marketing Margin	\$ per lb.	5.2
Adjusted Marketing Margin	\$ per lb.	5.7
Farm Share of Retail Price	Per cent	25.3
Adjusted Farm Share of Retail Price	Per cent	23.4
17. Farm equivalent weight.		

The farm price is the farm correspondents' average price of all wheat.

Farm Equivalent Weight: To determine the Farm Equivalent Weight of one pound of bread, the farm equivalent weight of one pound of flour was multiplied by the factor .593 which represents the average quantity of flour in one pound of bread in Canada. <sup>1/</sup>

By-Product Allowance: The by-product allowance, millers' drawback and processing levy for bread were calculated from those of flour using the same factor (.593).

Government Payments, etc: These were taken directly from the wheat flour data and multiplied by the factor .593 to reduce them to the farm equivalent weight of one pound of white bread. (Table No. 16)

#### Canning Tomatoes

Prices: The retail prices were adjusted to apply to Choice Quality tomatoes in 28 oz. tins. As was outlined in the general section on Prices (p. 3), farm prices for the canning crops were based on the cost to processors rather than actual prices at the farm. There have been certain exceptions however. For the years 1935, 1936, 1947, 1948 and 1949 the cost to processors, as published in the Dominion Bureau of Statistics' Report on the Fruit and Vegetable Processing Industry in Canada, was not available. In the instances outlined, the farm prices compiled by the Dominion Bureau of Statistics were used.

In all cases the national average price was derived by weighting the provincial average prices (Ontario, Quebec and British Columbia) by provincial production.

Farm prices were adjusted, where necessary, to include growers' subsidies.

Quality Differential: Reliable price differentials between grades at the retail level were not available so that no adjustment was made to relate the "All grade" quality at the farm to the Choice grade quality at the retail level.

Farm Equivalent Weights and By-Product Allowance: The farm equivalent weight that has been used is that published in "Conversion Factors, Weights and Measures of Agricultural Commodities and their Products", Ottawa, 1943. For tomatoes it is 3.144 lbs. per 28 oz. tin.

No allowance was made for the value of by-products in any of these products. The by-products of tomatoes are of such negligible value that they may be ignored.

Subsidies: Subsidies were paid to both producers and canners during the period 1942 to 1945. They are listed in Table No. 17. These subsidies were reduced to a Farm Equivalent Weight which is the same as the retail unit basis and lagged to produce a calendar year average.

<sup>1/</sup> McGregor, F.A., Bread Baking Industry in Canada, Ottawa, 1931, p.19.

Table No. 17 - GOVERNMENT SUBSIDIES PAID FOR CANNING TOMATOES

Year	Producer Subsidy	Processor Subsidy
	\$ per ton	\$ per doz. 28 oz. tins
1942	1.00	.12
1943	3.00	.13
1944	6.00	.13
1945	6.00	.13

Time Lags: Canning crops are the one type of commodity for which the time lag between producer and consumer has been taken into consideration in this study. This was done because of the seasonal nature of production and farm sales. About 30 per cent of the crop is retailed during the year it is harvested, the remainder during the following year. Thus the farm price of canned tomatoes, which is retailed in one year, is a composite price made up partly of the current years' farm price and partly of the previous years' farm price. The weight placed on each of these two prices varies among the different vegetables.

Farm prices and subsidies were adjusted by these lag percentages in order that they might be compared to the retail prices of the current year. eg. - The farm price as compared with the 1944 retail price of tomatoes was derived as follows: 1943 Farm Price x 70 + 1944 Farm Price x 30 = Lagged Farm Price for 1944.

Table 18 - CANNED TOMATOES: PRICES, ADJUSTMENTS, MARGIN AND FARM SHARE  
CANADA - ANNUAL 1935-49

Description	Unit	1 : 1935; 1936: 1937: 1938: 1939: 1940: 1941: 1942: 1943: 1944: 1945: 1946: 1947: 1948: 1949														
Retail Price	\$ per 28 oz. tin	11.1	11.8	13.1	11.5	11.0	13.1	13.8	13.9	14.0	14.6	15.3	19.7	26.2	21.1	
Total Subsidies	\$ per 28 oz. tin															
Adjusted Retail Price																
Farm Price	\$ per lb.	.6	.6	.6	.6	.7	.7	.7	.8	.9	1.0	1.1	1.3	1.4	1.4	
Weighted Farm Price	\$ per 1lb.	.6	.6	.6	.6	.5	.6	.7	.8	.9	1.0	1.1	1.2	1.3	1.4	
for Time Lag	\$ per 3.144 lbs. 1/	1.8	1.8	1.8	1.8	1.7	1.8	1.7	1.9	2.2	2.4	2.7	3.0	3.3	3.5	
Adjusted Farm Value	\$ per 28 oz. tin	9.3	10.0	11.3	9.7	9.3	11.2	11.6	11.5	11.3	11.6	11.8	16.0	22.0	16.7	
Actual Margin	\$ per 28 oz. tin															
Adjusted Margin																
Farm Share of Actual	Per cent	15.8	15.1	14.0	15.5	15.6	14.2	15.9	17.4	19.6	20.7	22.7	22.8	18.8	15.9	20.6
Retail Price	Per cent															
Farm Share of Adjusted	Per cent															
Retail Price	Per cent	17.0	17.9	18.5	20.0	20.8										

17 Farm equivalent weight.

Gov.Doc Canada, Quebec, Dept. of  
Can Marketing Service Economic Dev.  
Ag Marketing margins for selected  
Agricultural Products 1935

DATE

DATE

NAME OF BORROWER

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